

A KEY TO SPECIES OF *NISOTRA* BALY (COLEOPTERA:
CHRYSOMELIDAE: ALTICINAE) FROM CHINA, WITH DESCRIPTION
OF A NEW SPECIES AND TWO NEW RECORDS FOR CHINA

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Abstract.—Five species of the genus *Nisotra* Baly are known from China. *Nisotra xinjiangana*, n. sp., is described, and *Nisotra dohertyi* Maulik and *Nisotra nigripes* Jacoby are newly recorded from China. A key to the known Chinese species is given. The habitus of the new species and the aedeagus and the spermatheca of all species are illustrated.

Key Words: Alticinae, *Nisotra*, new species, new record, China

The genus *Nisotra* was proposed by Baly in 1864, with the type species *Haltica gemella* Erichson. At present, more than 70 world species are known. Among them, five species occur in China. There have been studies on some Chinese species of *Nisotra* by Baly (1864, 1876), Duvivier (1885), Jacoby (1885), Motschulsky (1866), Maulik (1926), Oglobin (1930), Chen (1933), Chen and Zia (1966), Gressitt and Kimoto (1963), Scherer (1969), and Wang (1992, 1996). However, the Chinese species of this genus have not been studied thoroughly. For this paper, we studied all of the 5 known Chinese species, one of them is new to science and two of them are recorded for the first time from China. All specimens examined, including the types of the new species, are deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, P. R. China (IZAS). The habitus of the new species and the aedeagus and the spermatheca of all species are illustrated.

Nisotra Baly, 1864

Nisotra Baly 1864: 437 (type species: *Haltica gemella* Erichson, 1834, by original designation).

Description.—Body ovate, convex, with apex narrow. *Head:* Moderately recessed as viewed from above, vertex broad and convex. Frontal tubercles inconspicuous, interantennal area flat, clypeus slightly convex, with anterior margin sinuate. Antenna slender and short, not exceeding middle of elytra. *Pronotum:* Broader than long, anterior margin concave behind, each side of anterior and posterior margins with a longitudinal groove, perpendicular to them. Scutellum triangular, with apex obtuse. *Elytra:* With fine and shallow punctures, punctures irregular or sometimes arranged in double rows, area between punctures flat; humeri convex. *Abdomen:* With punctures and pubescence, anterior coxal cavities closed

behind, claws appendiculate. Last sternite of male abdomen trilobed, of female rounded.

Diagnosis.—*Nisotra* is distinguished from other flea beetles by the ovate, convex body, moderately recessed head, and the longitudinal grooves on the anterior and posterior margins of the pronotum.

Distribution.—Oriental, Australian, and Afrotropical regions.

KEY TO CHINESE SPECIES OF *NISOTRA*

1. Distinct broad and deep longitudinal groove on each side of anterior margin of pronotum 2
- Inconspicuous short and shallow longitudinal groove on each side of anterior margin of pronotum 4
2. Body ovate, dorsum convex; length 4.00–4.50 mm; elytra metallic blue (genitalia in Figs. 2A–D) *N. dohertyi* Maulik
- Body elongate (as in Fig. 5E), dorsum not convex; length less than 4.00 mm; elytra not metallic blue 3
3. Legs black (genitalia in Figs. 4A–D) *N. nigripes* Jacoby
- Legs reddish brown (genitalia in Figs. 1A–D) *N. chrysomeloides* Jacoby
4. Longitudinal groove of posterior margin of pronotum inconspicuous, short and shallow, length shorter than 1/5 of pronotum (genitalia in Figs. 3A–D) *N. gemella* (Erichson)
- Longitudinal groove of posterior margin of pronotum distinct long and deep, length about 1/5 of pronotum (genitalia in Figs. 5A–E) *N. xinjiangana*, n. sp.

Nisotra dohertyi Maulik (Figs. 2A–D)

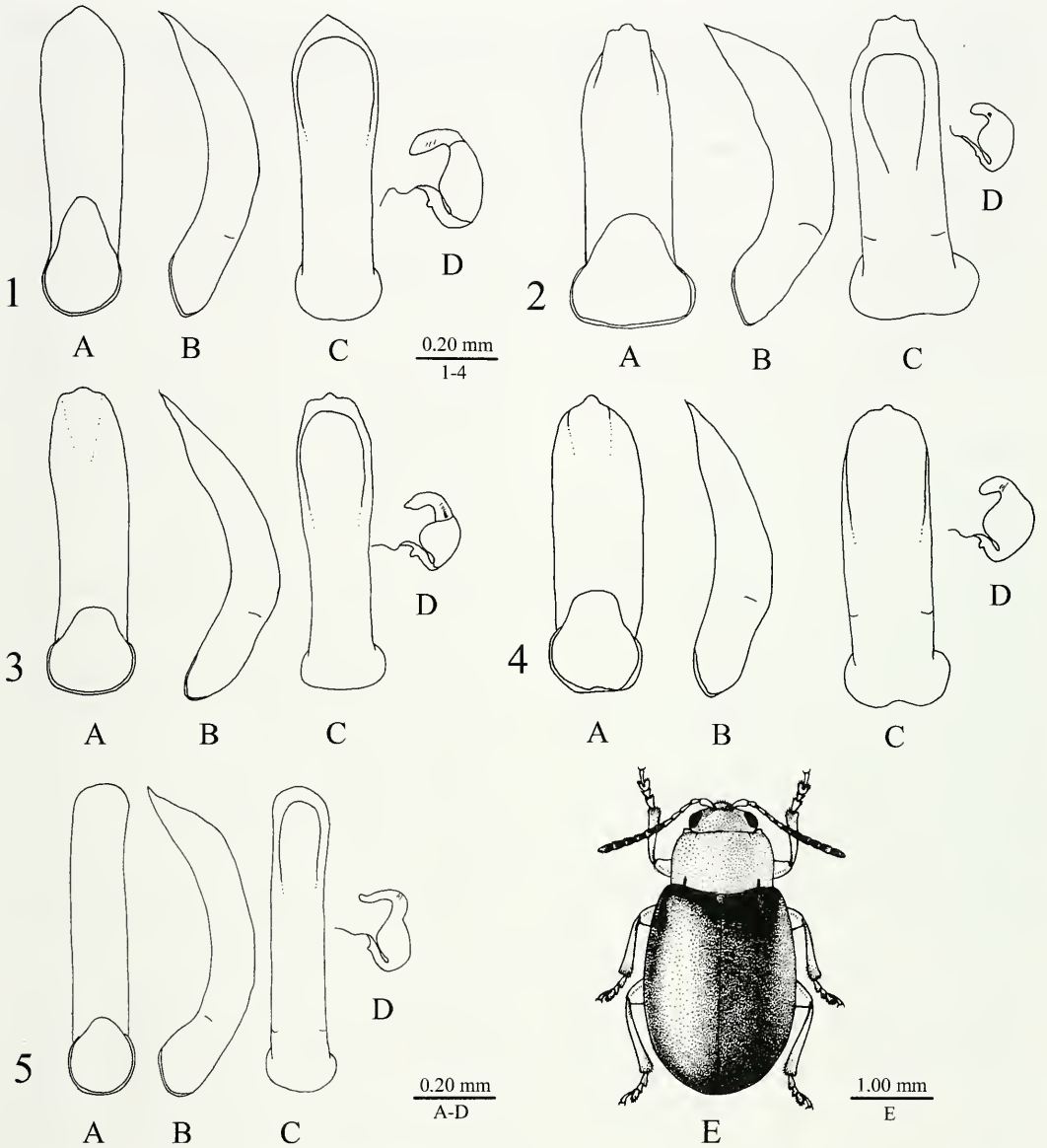
Nisotra dohertyi Maulik 1926: 274.

Diagnosis.—Body ovate, dorsum more convex. Elytra metallic blue; pronotum, four basal segments of antenna, and legs reddish brown; venter of thorax and abdomen piceous; seven apical segments of antenna black.

Head: Vertex convex and broad, impunctate; frontal tubercles inconspicuous,

as two oblique impressed lines; interantennal space broad and slightly convex. Antenna reaching middle of elytra; first segment clubbed, longest, second shortest, third slightly longer than second, fourth slightly shorter than third, fifth almost equal to fourth, remaining segments slightly thickened and covered with short hairs. *Pronotum*: Broader than long, anterior margin slightly concave, lateral margin arched, posterior margin arched towards elytra in middle sinuate; anterior angles thickened, with apex acute, posterior angles obtuse; each side of anterior and posterior margins with a longitudinal groove, perpendicular to the margin; surface not lustrous, with uniform and dense punctures. *Elytra*: Broader than pronotum at base, closely and confusedly punctate. Abdominal sternites sparsely covered with pubescence. Genitalia of this species with apex somewhat truncate and also a denticle in middle, in ventral view each lateral side of apex with a longitudinal concave.

Material examined.—P. R. China. Yunnan: menglongbanna: mengsong, 1600 m, 22~27 Apr. 1958, 16♂, 22♀, coll. Xu-Wu Meng; 22~24 Apr. 1958, 15♂, 16♀, coll. Shu-Yong WANG; 22~27 Apr. 1958, 15♂, 18♀, coll. Chun-Pei HONG; 22~28 Apr. 1958, 14♂, 20♀, coll. Fu-Ji PU; 24~26 May 1958, 28♂, 33♀, coll. Le-Yi ZHENG; 25 Apr. 1958, 3♂, 5♀, coll. Zhi-Zi CHEN; Pingbian: daweishan, 1500 m, 22 June 1956, 78♂, 89♀, coll. Ke-Ren HUANG etc.; 1350 m, 22~27 June 1956, 20♂, 30♀, coll. Panfilov; Gengma, 4 May 1955, 17♂, 19♀, coll. Tian-Rong HUANG; Jinping: hetouzhai, 2000 m, 10 May 1956, 8♂, 11♀, coll. Ke-Ren HUANG etc.; 1500–1700 m, 11 May 1956, 40♂, 46♀, coll. Ke-Ren HUANG etc.; 1600 m, 14 May 1956, 4♂, 4♀, coll. Ke-Ren HUANG etc.; 1700 m, 16 May 1956, 30♂, 38♀, coll. Ke-Ren HUANG etc.; Changpotou, 1200 m, 14 May 1956,



Figs. 1-5. *Nisotra* spp. 1, *N. chrysomeloides*. 2, *N. dohertyi*. 3, *N. gemella*. 4, *N. nigripes*. 5, *N. xinjiangana*. A = ventral view of aedeagus; B = lateral view of aedeagus; C = dorsal view of aedeagus; D = spermatheca; E = habitus.

2♂, coll. Ke-Ren HUANG etc.; Mengla, 370 m, 18 Apr. 1956, 1♀, coll. Ke-Ren HUANG etc.; Near Jinping, 900 m, 27 May 1956, 1♂, coll. Panfilov; Xishuangbanna: mengzhe, 24 June 1958, 5♂, 6♀, coll. Shu-Yong WANG; 25 June 1958, 2♂, 1♀, coll. Zhi-Zi CHEN; 1750 m, 25 June 1958, 8♂, 12♀, coll. Fu-Ji PU; 1200 m, 28 June 1958, 3♂, 2♀, coll. Fu-

Ji PU; Menghun, 1200-1400 m, 9-24 May 1958, 3♂, 6♀, coll. Chun-Pei HONG; 18-23 May 1958, 1♂, 2♀, coll. Xu-Wu MENG; 22-24 May 1958, 6♂, 6♀, coll. Yi-Ran ZHANG; 24 May 1958, 2♂, 3♀, coll. Xu-Wu MENG; 1200 m, 24 May 1958, 2♀, coll. Le-Yi ZHENG; Damenglong, 650 m, 7-9 Apr. 1958, 2♂, 2♀, coll. Unknown; Menga, 1050-

1080 m, 23 May 1958, coll. Shu-Yong WANG; 31 May 1958, 1♀, coll. Fu-Ji PU; Menghai, 1200–1600 m, 24 July 1958, 1♀, coll. Shu-Yong WANG; Ruili: mengxiu, 1300 m, 28 Apr. 1980, 1♂, 1♀, coll. Hong-Xing LI. All specimens are deposited in IZAS.

Distribution.—China (Yunnan). This is a new record for China. The species was described from Burma.

Nisotra nigripes Jacoby
(Figs. 4A–D)

Nisotra nigripes Jacoby 1894: 293.

Diagnosis.—Body elongate ovate. Head, pronotum and four basal segments of antenna fulvous, remaining segments black; elytra dark blue; scutellum obscure fulvous; venter of thorax and abdomen and legs black.

Head: Vertex broad, impunctate; frontal tubercles obsolete; antenna extending to middle of elytra, first segment apically clubbed, longest, second shortest, shorter than first, third longer than second, fourth slightly longer than third, remaining segments almost equal in length to fourth and covered with pubescence. *Pronotum*: Distinctly broader than long, surface very finely punctured, anterior margin straight, lateral margin arched, posterior margin moderately arched towards elytra in middle; anterior margin with a very deep and rather long perpendicular groove at each side, posterior margin with very narrow and shallow longitudinal groove. Scutellum triangular, with surface more smooth. *Elytra*: With irregular punctures, sometimes arranged in double rows, interstices with fine punctures. Genitalia of this species with apex slightly triangular and also with a denticle in middle, each side of apex with a longitudinal and shallow groove near lateral part.

Material examined.—P. R. China. Yunan: xishuangbanna: menghun, 1200–

1400 m, 19 May 1958, 1♂, 2♀, coll. Chun-Pei HONG; 19 May 1958, 1♀, coll. Xu-Wu MENG; 21 May 1958, 1♀, coll. Xu-Wu MENG; 1200 m, 17 June 1958, 1♀, coll. Le-Yi ZHENG; Menga, 800 m, 29 May 1958, 1♂, coll. Shu-Yong WANG; 1050–1080 m, 31 May 1958, 2♂, 6♀, coll. Fu-Ji PU; 10 Aug. 1958, 2♀, coll. Shu-Yong WANG; Damenglong, 650 m, 11–12 July 1958, 3♂, 3♀, coll. Chun-Pei HONG; Mengzhe, 1200 m, 31 Aug. 1958, 1♀, coll. Fu-Ji PU; Yiwubanna: menglun, 650 m, 23 July 1959, 5♂, 7♀, coll. Fa-Cai ZHANG; 1♂, 2♀, coll. Zhen-Fu LI; 3♂, 6♀, coll. Fu-Ji PU; 11 Apr. 1982, 4♂, 5♀, coll. Pei-Yu YU; Kunming, 1900 m, 23 Mar. 1958, 1♀, coll. Fu-Ji PU; Jinping: mengla, 370 m, 22 Apr. 1956, 1♀, coll. Ke-Ren HUANG; 350 m, 22 May 1956, 1♀, coll. Panfilov; East of Jingdong, 1300 m, 31 May 1956, 1♀, coll. Kryzhanovsky. All specimens are deposited in IZAS.

Distribution.—China (Yunnan). This is a new record for China. The species was described from Burma.

Nisotra xinjiangana Zhang and Yang,
new species
(Figs. 5A–E)

Description.—Body elongate ovate. Length: 4.40–4.60 mm, width: 2.20–2.40 mm. Head, dorsal and ventral surface of prothorax and legs reddish brown, basal 4 segments of antenna reddish brown, remaining segments black; mandible black, mesosternum, metasternum, and abdomen black; elytra deep blue; scutellum brown.

Head: Protruding, vertex broad and convex, surface smooth, sparse with fine punctures; frontal tubercles elongate, oblique, separated by a longitudinal furrow; eyes ovate, with surface coarse; clypeus broad between antenna, middle slightly convex, each side with few punctures, anterior margin straight; la-

brum with 6 setigerous pores near anterior margin, anterior margin arched. Antenna extending slightly beyond humerus of elytra, about 1/3 of elytra length, first segment apically clubbed, longest, second shortest, third longer than fourth, fifth almost equal in length with fourth, remainder somewhat equal in length, last segment longer than tenth, with apex acute, proportion of each segment as: 1.20: 0.60: 0.80: 0.70: 0.70: 0.70: 0.70: 0.80: 0.80: 1.00, segments from fourth to end slightly thicker and more hairy. *Pronotum*: Broader than long, somewhat convex, length: 1.10–1.30 mm, width: 1.70–1.90 mm; surface with close and confused punctures, anterior margin straight, lateral margin arched, posterior margin arched towards elytra in middle; at each side near lateral margin, two longitudinal impressions perpendicular to both anterior and posterior margin, those of anterior margin inconspicuous, sometimes replaced with 1 to 2 punctures, that of posterior margin distinct and rather curved, length about 1/5 pronotum length; anterior angle thickened, with apex acute, posterior angle obtuse. Scutellum triangular, surface with wrinkles. *Elytra*: Length: 3.70–3.90 mm, width: 2.60–2.80 mm; moderately convex, broader at base than pronotum, humeri raised, scutellum rows shorter, arranged in double rows, elytral punctures confused, with fine punctures between larger ones; epipleura broad at base, gradually narrowing behind, surface with transverse wrinkles, especially distinct in posterior part. *Venter*: Prosternum narrowest between anterior coxal cavity, with apex rounded, anterior coxal cavity closed behind, mesosternum narrower than metasternum, metasternum with a longitudinal groove in middle, surface with pubescence and punctures. Claws appendiculate. Abdominal surface with pubescence and punctures, last sternite of male trilobed, that of female rounded.

Type material.—Holotype: ♂, P. R. CHINA. Xinjiang: aletaikemuqi, 800 m, 22 Aug. 1960, coll. Shu-Yong Wang. Paratypes: 16 Aug. 1960, 2♂, 1♀, coll. Shu-Yong Wang; 40♂, 62♀, the same to holotype; 23 Aug. 1960, 2♂, coll. Shu-Yong Wang; 18♂, 15♀, coll. Zhang Fa-Cai; Jinghe, 24~25 Aug. 1955, 1♂, 2♀, coll. Shi-Jun MA, Kai-ling XIA & Yong-Lin Chen; Laoshihezi, 8 June 1957, 1♀, coll. Chun-Pei Hong; Mt. Tian, 690 m, 4 Aug. 1957, 1♀, coll. Guang Wang. Type materials are deposited in IZAS.

Diagnosis.—This new species is similar to *N. gemella*, but can be distinguished as follows: *N. gemella* with longitudinal impressions of anterior margin more distinct, while the new species with the impressions more inconspicuous, sometimes replaced by 1 to 2 punctures; *N. gemella* with longitudinal impressions of posterior margin inconspicuous, length shorter than 1/5 of pronotum, while the new species with the impressions more distinct and deep, about 1/5th of the pronotal length; and genitalia of *N. gemella* with a denticle at apex and a triangular apically concave about 1/4th of genitalia, while the new species with apex rounded and not a concave apically.

Etymology.—The name of the new species is derived from the type locality.

Distribution.—China (Xinjiang).

Host plant.—*Althaea rosea* (Linn.) Cavan. (Malvaceae).

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